CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

CLEANUP AND ABATEMENT ORDER NO. 98-056
AGAINST
COUNTY OF SAN BERNARDINO, DISCHARGE
UNITED STATES DEPARTMENT OF INTERIOR - BUREAU OF LAND MANAGEMENT, OWNER
LANDERS WASTE MANAGEMENT FACILITY
CLASS III LANDFILL - CLASS II SURFACE IMPOUNDMENTS
Northwest of Joshua Tree - San Bernardino County

The Executive Officer of the California Regional Water Quality Control Board, Colorado River Basin Region, finds that:

1. The County of San Bernardino, Waste System Dievision, known as the county of San Bernardino Solid Waste Management Department, 222 West Hospitality Lane, Second Floor, San Bernardino, California 92415-0017, administers the operation of the Landers Waste Management Facility (hereinafter referred to as the Landfill) located approximately 10 miles northeast of Yucca Valley and four miles east of Highway 247 in the SE 1/4 of Section 20, SW 1/4 of Section 21, NW 1/4 of Section 28 and NE 1/4 of Section 29, T2N, R6E, SBB&M in San Bernardino County, California.

2. The United States Department of Interior, Bureau of Land Management (Hereinafter also referred to as the discharger) with the physical address of 63500 Garnet Avenue, North Palm Springs, California, 92258, and mailing address of P. O. Box 2000, North Palm Springs, California 92258, is the lessor and the owner of the property known as the Landers Landfill.

3. The Landfill is regulated by waste discharge requirements prescribed in Board Order No. 98-003, adopted on Ujanuary 8, 1998, and board Order No. 93-071, adopted September 15, 1993. The Landfill has been in operation since 1965.

4. The Lanfill encompasses 650 acres, and consists of a cut-and-fill landfill, active an dinactive landfills, including old and new septage disposal areas. Approximatley 1.1 million cubic yards (yd^3) of refuse and cover have been placed in the active landfill. It has a total capacity of approximately 3 million yd^3 and is scheduled to close in the year 2008.

5. The Landfill is unlined, has no leachate collection and removal system (LCRS), and receives approxiamtely 381 tons-per-day (tpd) of Class III non-hazardous and inert waste, as defined by California Code of Regulations, Title 23, Chapter 15 (Chapter 15, Section 2523, and 2524. Specifically, wastes include dead animals, tires, construction, demonlition, agricultural, industrial and mixed municipal wastes.

6. Two new Class II surface impoundments (West and East Pond) were constructed on a three-acre portion of the site in October 1995. These ponds are equipped with liners and LCRS, and designed and constructed in accordance with Chapter 15 criteria. The impoundments receive approximatley 96 tons/day of grease trap, septic tank, and chemical toilet waastes. Prior to the construction of lined impoundments, liquid wastes were discharged from 1965- to 1995 to unlined septage impoundments lacking an LCRS. Dried wastes were excavated from the unlined impoundments, and disposed at WSD_____ Barstow Sanitary Landfill.

7. The Landfill is located in the west-central portion of the Mojave Desert geomorphic province of Claifonria. This geomorphic province consists of a wedge-shaped fault block, referred to as the Mojave Block. The site is near hte apex of a large alluvial fan that extends from the foothills across the Twentynine Palms U. S. Marine Corps Base. Ths alluvial fan is approximately 21 miles long and 198 miles wide. In the vicinity of the site, the slope of the alluvial fan is approximately 130 feet per mile.

8. Bedrock beneath thhe site is Mesozoic and is essentialy gneissic metamorphosed sediments an dintrusive biotite quartz monzonite. the gneissic bedrock is fractured and jointed, with preferential weathering.

Bedrock beneath the site is not only fradtured and jointed, but to a lesser degree, faulted as well. A fualt identified beneath the site parallels the northwest-striking faults that transect much of the Mojave Desert Region.

9. The alluvium and westhered bedrock are unsaturated at the site. Ground water beneath the site occurs only in deeper fracture zones within the gneissic and granitic bedrock. Based on monitoring wells within the study area, the top of saturated bedrock is encountered at depths of approxiamtley 217 to 731 feet below ground surface.

10. The dischargers have consturcted a ground water contour map from the most recent vertically corrected ground water elevation measurements. The site ground water flow regime is complex.

11. An inferred fault barrier, corresponding to the Nason-Dixon fault may extend through th emiddle of the active landfill. The barrier is suggested by the differences in ground water elevations between montioring wells L-3 and L-14, and wells L-1, L-13, and L-20, and the reuslting ground water elevation anomalies.

12. On July 5, 1990, the dischargers submited a Solid Waste Assessment Test (SWAT) report form the Landfill in compliance with Section 13273, Article 4, Chapter 4, Division 7 of the Claifornia Water Code.

13. The monitoring system at the Landers Landfill consists of 18 g4orund water monitoring wells, including one consistently dry monitoring well (l-3a0. As part of the SWAT investigation, the dischargers consturcted the following ground water montioring wells: L-1, L-3, L-6, L-7, and L-8. And as part of the Evlauation Montioring Program (EMP), the follwoing wells: L-9, L-10, L-11, L-12, L-13, L-14, L-15, and L-16.

14. The SWT investigation and the ground water monitoring data, submitted quarterly in compliance with Montioring and Reporting Program No. 91-028 (applicable to this Landfill prio to January 8, 1998 when Board Order 98-003 was adopted), induicates that purgeable halocarbons and volatile aromatic compounds are leaking from the Landfill into the ground water.

15. Ground water samples from montioring wells installed for the SWAT were analyuzed ona quarterly basis from February 1988 to September 1997 (five wells total, 34 discrete sampling events). A variety of constituents of concern are close to ro exceeded the State Drinking Water Standards at least once in each quarterly sampling event. Even though the constituents were found in different wells, a listing of the highest concentration of these constituents is given below:

Constituent of Concern	Maximum Well Conc. (µg/L)[1]	CA Primary Max. Contaminant Level (µg/L)	CA Toxic Drinking Water Action Level (µg/L	Well No.
1,1-dichloroethane	11.2[2]	5	-	L-3
Benzene	1.4[2]	1	-	L-7
Bis (2-Ethylhexy)phthalate	33[2]	4	4	L-8
Tetrachloroethene	4.9	5	-	L-3
Dichlorodifluoromethane	14	-	1,000[3]	L-3
1,4-Dichlorobenzene	0.5	5	-	L-3
1,1-Dichloroethene	1.2	6	-	L-3
Bromomethane	0.8	-	10	L-7
1,1,1-Trichloroethane	1.4	200	-	L-8
Chloroethane	0.8	-	-	L-3
Chloroform	0.2	100	-	L-3
Toluene	13	150	1,000	L-8
Trichlorofluoromethane	3.6	150	-	L-3
Nitrate (As N)	74,000[2]	45,000	-	L-6

[1] µg/L - microgram-per-Liter
[2] Indicates constituents concentration exceeded or equaled regulatory standard in at least one ground water monitoring well sample.
[3] California Taste and Odor Drinking Water Action Level

Chromium, Total	310[2]	50	-	L-6
Nitrate/Nitrite	20,400[2]	10,000	-	L-8
Selenium	10[2]	10	-	L-8
Zinc	1,020	5,000[4]	-	L-1

1. Ground water samples from monitoring wells instaleld for the EMP were also analyzed on a quarterly basis from July 1995 to September 1997 (eight 23lls, 6-8 sampling events). A variety of constituents of concern were found in these monitoring wells. The constituents include the following:

Constituent of Concern	Maximum Well Conc. (µg/L)	CA Primary Max. Contaminant Level (µg/L)	CA Toxic Drinking Water Action Level (µg/L	Well No.
1,4-Dichlorobenzene	11.1[2]	5	-	L-16
Bis (2-Ethylhexy) phthalate	3.3	4	4	L-13
Chlorobenzene	38.2	-	-	L-16
Benzene	0.7	1	-	L-16
Toluene	3.0	150	1,000	L-10
1,1-dichloroethane	1.0	5	-	L-14
1,1-dichloroethene	0.6	6	-	L-14
1,2-Dichlorobenzene	3.0	600[5]	130	L-14
Total Xylenes	0.6	1,750	-	L-14
1,1,1-Trichloroethane	0.6	200	-	L-14
Dichlorodifluoromethane	1.2	-	1,000[5]	L-14
Nitrate (As N)	103,000[2]	45,000	-	L-9
Chlorite	208,000	-	-	L-9
Selenium	7	10	-	L-16
Total Dissolved Solids[6]	1,550 mg/L	-	-	L-16

1. On December 6, 1991, the California Regional Water Quality Control Board, Colorado River Basin Region (Regional Board) issued Cleanup and Abatement Order (CAO No. 91-062 to the County of San Bernardino for a release of hazardous constituents to the ground water at the Landfill.

2. The dischargers have submitted and performed the following in compliance iwth CAO No. 91-062, and as part of the EMP:

3. The discharger submitted a preliminary Evaluation Monitoring Program (EMP Workplan on April 1992, a final EMP Workplan on April 15, 1993, and an EMP Investigation Report on May 1996.

4. The discharger has installed, as part of the EMP program, eight new ground water montioring wells at the site.

5. The hazardous constituents stated in Findings No. 15 and 16 indicate a release from the municipal solid waste landfill, and/or the pre-existing unlined liquid waste evaporation ponds.

6. The Wter Quality Control Paln for the Colorado River Basin Region (Basin Plan) designated the beneficial uses of ground and surface waters in this Region.

7. The Basin Plan indicates that the landfill is located in the Emerson Hydrologic Unit.

8. The benefiical uses of ground waters int he Emerson Hydrologic Unit are:

9. Municipal supply (MUN)
10. Agricultural supply (AGR)

[4] California Secondary Maximum Contaminancet Level
[5]California Taste and Odor Drinking Water Action Level
[6] The TDS average for the ground water is in the range of 450 mg/L.

11. Section 13304(a) of the california Water Code states, in part:

12. “Any person...who has caused or permitted...any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the State and creates, or threatens to create, a condition of pollution or nuisance, shlal upon order of the Regional Board clean up such waste or abate the effects thereof, or, in the case of threatened pollution or nuisance, take other necessary remedial action...”

13. Section 13267 of the California Wtaer Code states, in part:

14. “The Regional Board may require that any person who has discharged, discharges, or is suspected of discharging, or who proposes to discharge waste...shall furnish, under penalty of perjury, technical or monitoring program reports which the Regional Boards reuqires...”.

15. The discharge of hazardous constituents described in Finding No. 15 and 16 has caused pollution of the ground water beneath the Landfill, and violates Section 13304(a) of the Claifornia Water Code.
16. Pursuant to Section 13304 of the California Water Code, the dsicharger is hereby notified that the Board is entitled to, and may seek, reimbursement for all reasonable costs actually incurr3ed by the Board to investigate unauthorized discharges of water, and to oversee cleanup of such waste, abatemenet of the effects thereof, or other remedial action reuqired by this Orde4r. The dischargesr shall reimburse the reigonal Board upon receipt of a billing statement for these costs.

17. This enforcement action is being taken for the protection of the environment and is therefore exempt from the California Environmental Quality Act pursuant to Section 15308 and 15321, Chapter 3, Title 14 of the California Code of Regulations.

IT IS HEREBY ORDERED, Cleanup and Abatemetn Order No. 91-062 is rescinded and that pursuant to Sections 13304 and 13267 of Division 7 of the California Water Code, the county of San Bernardino shall prepare reports, and cleanup or abate the effect of the release of hazardous constituents described in Findings No. 15 and 16 by complying with the following:

1. Submit a monthly progress report to the Regional Board’s Executive Officer that details the progress being made toward the goals outlined in the EMP submitted May 1996, including progress towards obtaining permit for the work.

2. As part of the monthly progress report, the discharger shall also describe progress bieng made towards submitting a final recommendation for a Corrective Action Program.

3. February 15, 1999 -0 Submit a report of findings from the Evaluation Monitoring Program about the completion of field activities and result in laboratory analysis. This report shall:

4. Fully delineate the vertical and lateral extent of the release to soil and ground water.

5. Characterize the site hydrology csuch that an assessment of contamination migration pathways can be made.

6. February 15, 1999 - Submit an Engineering Feasibility Study for Corrective Action Plan.

7. April 15, 1999 - Submit fo rht ereigonal Board’s Executive officer’s approval a final recommendation for establishing a Corrective Action Program. Any additional field or laboratory work required, including additional test boring, test wells, aquifer hydraulic testing, and laboratory analyses will be part of this submittal.

8. Jhanuary 15, 2000 - Implement the Corrective Action Program to rem3ediate all soil and ground water pollution. Cleanup efforts shall continue until such time as the Reigonal Board’s Executiv Officer considers the site to be remediated to the fullest possible estent, based on the available technology.

All technical and monitoring reports required in conjunction with this Order are required pursuant to Section 13267 of the California Water code, and shall include a statement by the dischargers, or an authorized representative of the dischargers certifying under the penalty of perjury under the laws of th State of Califonria, that the report is true, complete and accurate.

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PHIL GRUENBERG

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Date